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The Moro Night Rings with a Gong-and-Tray Jam Session—The Philippine Islands are a meeting place of many peoples, languages, and religions. Moros are Moslems, but the great majority of Filipinos are Christians. There are eight leading native dialects, but English is spoken by more than four million islanders. Tagalog, a language based on a Malayan dialect, is the official tongue of the Republic.

(SEE BULLETIN NO. 1)

J. BAYLOR ROBERTS

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constitutes the northern of three natural divisions. Nearly half the Republic's 20,000,000 people live in the "rice bowl" of central Luzon. Centrally, the Visayan group includes the islands of Samar, Negros, Panay, Leyte, and Cebu, ranging downward from Connecticut to Delaware in size. Anchoring the third division (illustration, cover) is Mindanao in the south, an island almost as large as Luzon. Only 11 of the islands exceed 1,000 square miles; 6,600 cover less than a square mile apiece.

Stretching 1,100 miles north to south, the Philippines lie within the north-torrid-zone latitudes of southern Cuba to northern Ecuador. Rice, corn, and sweet potatoes are raised for food. Sugar cane, coconut, abacá (source of rope fiber), and tobacco are important exports.

Manila, business and cultural center as well as capital, compares with greater Washington in size. Its gleaming new Quezon City on Luzon's hills northeast of the port is the new home of the Republic's Government and of the University of the Philippines.

Of all the world's major cities it is said few of them suffered greater devastation than Manila in World War II. The feat of constructing more than 20,000 buildings in Manila since 1948 has re-established the city as the "Pearl of the Orient." Cebu on Cebu Island, second-largest Philippine city, counts less than 200,000 population.

Discovered by Magellan—Ferdinand Magellan, Portuguese explorer, discovered the archipelago in 1521. The Philippine urge for freedom was expressed in an unsuccessful revolution during the final years of Spanish domination which lasted from 1565 to 1898. Following the Spanish-American War in 1898, the islands became a United States dependency.

From the start American policy recognized the desire of Filipinos to govern themselves. In 1935 the islands became a self-governing commonwealth under United States guidance. Full independence was to follow within ten years. World War II intervened, the Japanese wresting control of the region in attacks that began December 8, 1941.

The Luzon defense on Bataan Peninsula with its final stand at Corregidor is a glorious chapter in American-Filipino history. In the end the invaders were driven out and democratic government restored. The country became independent on July 4, 1946—only a year behind schedule.

Today Filipinos speak for freedom and democracy in many ways. They supplied a fighting force for the United Nations cause in Korea. Their General Carlos P. Romulo served in 1950 as President of the United Nations General Assembly.

References—See the National Geographic Society's map of The Philippines. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For further information, see "Seeking Mindanao's Strangest Creatures," in *The National Geographic Magazine* for September, 1948; "What Luzon Means to Uncle Sam," March, 1945; "Mindanao, on the Road to Tokyo," November, 1944; "Facts About the Philippines," February, 1942; and, in the GEOGRAPHIC SCHOOL BULLETINS, March 31, 1952, "Huks and Hillmen Harry Philippine Army." *(Issues of The Magazine not more than 12 months old are available to schools and libraries at a specially discounted price of 50¢ a copy. Earlier issues sell for 65¢ a copy through 1946; $1.00, 1930-1945; $2.00, 1912-1929. Write for prices of issues prior to 1912.)*

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J. BAYLOR ROBERTS

A Yarn-Twisting Machine Makes Ships' Hawsers—One of the most important Philippine products is abacá, or Manila hemp, from which lines of incredible strength are woven for the world's navies.

Bulletin No. 1, November 30, 1953

Filipinos Cherish Freedom, Election Shows

Filipinos cherish their new national independence. Proof: About four-fifths of the 5,600,000 qualified voters of the seven-and-a-half-year-old Republic of the Philippines turned out for their presidential election November 10.

It was a case of the pupil outdoing the master. The Philippines, once an American possession, learned democracy from the United States. Yet in the 1952 American presidential election only three-fifths of the registered voters cast their ballots.

American political slogans were borrowed by the chief candidates. Voters decided "It's time for a change" by electing Nationalist Party candidate Ramon Magsaysay (pronounced *mag-sigh-sigh*) for the four-year term. They rejected the "Don't change horses in midstream" plea of incumbent President Elpidio Quirino (pronounced *kee-ree-no*). Magsaysay had attained national popularity by subduing a communist bid for power.

The Philippines archipelago lies 400 miles southeast of China and 6,900 miles west across the Pacific Ocean from the United States. It consists of 7,100 islands and islets whose total land area slightly surpasses that of Arizona.

Central Luzon the Hub—Kentucky-size Luzon with its satellite islands

with the union of three Alpine states in 1291. In that year the forest cantons of Uri, Schwyz, and Unterwalden banded together in a perpetual league to fight against encroachment by neighboring countries.

Gradually over the troubled centuries, the league grew as other cantons joined. Bern became the eighth member in 1353. As the Swiss union expanded to the west and south, speech, manners, and customs of France and Italy were added. In 1874 the Federal Government recognized French, German, and Italian as official national languages. The majority of the people speak German, but dialects vary greatly from valley to valley. French is widely spoken in the west, Italian in the southern cantons.

Thousands of Americans, some of them soldiers of two world wars on furlough, have enjoyed Switzerland's winter sports, unparalleled scenery, and delicious and abundant food. They became acquainted with the Swiss type of democracy that makes every family head a respected political power. They sensed the zealous guarding of the country's freedom warning an invader he will succeed only when the last Swiss has fallen.

An Army Stands by—Its high wall of encircling mountains has enabled Switzerland to establish a tradition of neutrality. Every modern world power has recognized this position and the Alpine republic has succeeded in keeping out of two great world wars. But just to be on the safe side, every able-bodied male citizen of the country is a trained soldier. The government issues him a weapon which he keeps at home in case of emergency.

A citizen army of 700,000 can take the field on 72 hours' notice. Ancestors of these troops were Europe's finest mercenaries (soldiers hired to fight for a country not their own). A readily defensible land of small valleys isolated from each other by river, mountain, and glacier, Switzerland would be a very costly prize for an aggressor.

The nation today is still a confederation as it was nearly 800 years ago. Each of its twenty-two cantons—three of them subdivided into halves—carefully maintains its individual independence. Each has its own executive, legislative, and judicial institutions.

Federal Powers Are Limited—The Federal Government of Switzerland acts only on such matters as war, international relations, communications, and currency. Two federal legislative bodies, comparable to the Senate and House of Representatives of the United States, elect a seven-member Federal Council. A President and Vice-President are chosen from among the Council's members. They serve one-year terms.

Despite a lack of important minerals and no direct access to overseas markets, Switzerland is predominantly an industrial country, specializing in quality manufactures. It is noted for making fine watches and machinery. Agriculture comes second. Entertaining visitors to her scenic wonders is yet another major Swiss occupation.

References—Switzerland is shown on the Society's map of Western Europe.

For further information, see "Switzerland Guards the Roof of Europe," in *The National Geographic Magazine* for August, 1950; "Swiss Cherish Their Ancient Liberties," April, 1941; and "August First in Gruyères," August, 1936.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, January 12, 1953, "Swiss Shelter Children of Many Nations"; and "Inland Switzerland Expands Merchant Fleet," October 27, 1952.

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Skis Are His Wings—A champion skier flies through the air with the greatest of ease, while spectators darken the white slopes of the Bernese Oberland. He aims for distance, not height, and may land 200 feet from his taking-off point. Hotels and wide-roofed homes dot the valley and hillsides of the canton of Bern, celebrating 600 years in the Swiss union.

Bulletin No. 2, November 30, 1953

Swiss Capital Marks 600th Anniversary

For some, Bern means fine watches, good chocolate, and carved wooden bears. Others link Switzerland's capital with the cloak-and-dagger espionage of movie thrillers. What is important to its citizens this year is that the placid city marks the 600th anniversary of its joining the Swiss Confederation.

Switzerland's traditional neutrality leaves foreign agents free to come and go, unrestrained, as long as they do not engage in activities against the hospitable Swiss government.

With "cold war" tension centered in middle Europe, Bern succeeds Lisbon, spy stamping ground of World War II, as a center for the exchange of information. It is comparatively easy for communist agents to slip through the Iron Curtain into the freedom of the mountain republic. There they brush shoulders with intelligence agents from Western lands, each hoping to pick up valuable information in the picturesque medieval city by the icy waters of the Aare River.

Bern was already a century old when the Swiss Confederation began

In addition to water installations at its producing oil fields in the Persian Gulf region, and the scattered water wells sunk here and there in once totally parched desert hinterlands, the company has drilled about forty such life-giving wells along the recently completed Tapline that carries oil to the Mediterranean.

Wherever this water has gushed forth at pump stations and other points on the 1,068-mile pipe line, Arab wayfarers have gathered with their herds of sheep, goats, and camels.

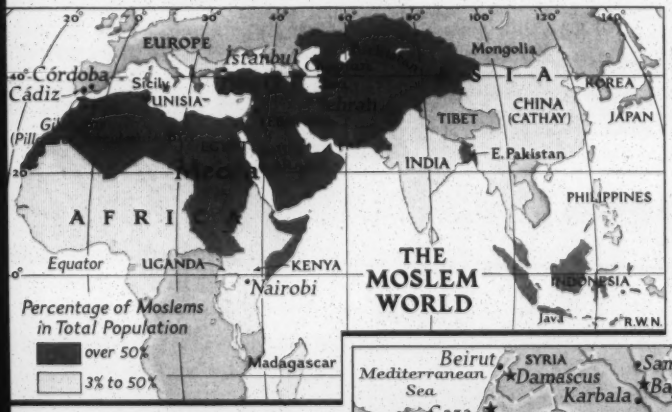
The earliest and one of the most important modern irrigation projects was the model farm at Al Kharj oasis near the capital, Riyadh. Using power-driven pumps, a ten-mile concrete canal, and other irrigation aids, Americans laid the groundwork for the large-scale production of grains, fruits, and vegetables that has made Al Kharj a garden spot of Saudi Arabia.

Riyadh and Mecca are dual capitals of the desert kingdom.

References—Saudi Arabia appears on the Society's map of Southwest Asia.

For additional information, see "From America to Mecca on Airborne Pilgrimage," in *The National Geographic Magazine* for July, 1953; "In Search of Arabia's Past," April, 1948; and "Guest in Saudi Arabia," October, 1945.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, November 26, 1951, "Saudi Arabia Finishes 'Iron Camel' Railroad."



Mecca—Moslem World Hub

Islam sprang up in Mecca 13 centuries ago when the Prophet Mohammed, who was born there, began preaching the religion of the Koran. Like Christianity, Islam won few followers at first and met active opposition. It became a militant movement and spread to the Atlantic at Morocco and into the Pacific at the Philippines, gaining 370,000,000 adherents along the way.

Saudi Arabia Holds Islam's Shrines

Every Moslem hopes to visit Mecca once before he dies. Hundreds of thousands make the Hadj, or pilgrimage, each year and some go on to Medina. All must pass through the territory of Saudi Arabia. Formerly the pilgrims were considered fair prey by looters, but Ibn Saud—the old King who recently died—put a stop to such stealing by the simple expedient of cutting off a hand of each offender.

Emir Saud, who succeeded his father as King of Saudi Arabia, maintains his capital at Riyadh. Ibn Saud captured this desert stronghold as a young man in an "Arabian Nights" raid by climbing the castle wall at night with nine men.

Bulletin No. 3, November 30, 1953

Saudi Arabia—Mixture of Old and New

A land of paradoxes is Saudi Arabia. Its founder and long-time king—Ibn Saud, who died earlier this month—was an Old Testament patriarch of the twentieth century. He ruled a region where Bedouins roved the desert as in Bible times, yet for transportation he favored his custom-built Mercedes-Benz or his specially outfitted plane.

He was one of the world's richest men, but his fortune did not come from tribute of subject princes as in the days of the Arabian Nights. Royalties from some of the world's richest deposits of oil provided most of his reported $200,000,000 annual income.

Pilgrims Meet Technicians—The old and the new meet continually in Saudi Arabia. Moslem pilgrims to Mecca and Medina (illustration, back cover) encounter oil executives and technicians from California and Texas. Aramco, the Arabian American Oil Company, holds the exclusive concession for some 450,000 square miles. It is owned by the Standard Oil Company of New Jersey, Standard Oil Company of California, and the Texas Company.

The oil industry and its royalties are transforming the ancient land. Roads and one railroad have been built. Health, education, and general welfare have improved. Irrigation has spread. Arabs hold steady-paying jobs in the oil fields, refineries, and export centers in the eastern part of the country.

One of Saudi Arabia's age-old problems has been lack of water. Though oil and water do not mix, petroleum interests have uncovered many new sources of water. Some of it is absorbed by the new industry, but the remainder aids in the development of the country as a whole.

Except in the mountainous west and southwest rims, Saudi Arabia's annual rainfall amounts to only about three inches. There are virtually no permanent streams in a land whose more than half a million square miles are spread over largely rocky plateau and inhospitable desert. Brief and torrential downpours send occasional wild floods along the wadies, or watercourses, but during most of the year these ditches and gullies are dust dry.

Man-made Oases—Yet there often is considerable water waiting to be tapped beneath the arid, forbidding crust. When geologists locate an underground vein, modern drilling equipment is brought in and soon a man-made oasis blooms on the desert. Meanwhile, nature's green and fertile oases continue to serve the wandering riders of the sands.

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least nine countries to the south. Quarantine gardens at Coconut Grove, Florida, act as a clearing house for the entire hemisphere.

Results are beginning to show. Carefully selected and tended rubber trees with blight resistance are coming into production. Plantings are expected to increase twenty per cent in 1953 alone. Small farmers, seeing rubber successfully grown and sold, are asking for seedlings to plant among their coffee and cacao. With leaf blight beaten, American-grown rubber is on the rebound.

References—For further information, see "Malaya Meets Its Emergency," in *The National Geographic Magazine* for February, 1953; "Indochina Faces the Dragon," September, 1952; "Rubber-cushioned Liberia," February, 1948; and "Our Most Versatile Vegetable Product," February, 1940.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, March 30, 1953, "Versatile Carbon Black Serves Many Purposes."

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Emigrants from Amazon Jungles Form a Regiment in Indonesia—Just like platoons of soldiers, rubber trees, transplanted by way of England's Botanical Gardens at Kew, march across fertile acres on the Island of Sumatra. Between them grow foliage plants set out to stop erosion and discourage weeds. Balanced on a pole over his shoulders, a harvester carries tins to hold the latex he will tap from the trees.

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Bulletin No. 4, November 30, 1953

American Rubber Rebounds from Blight

With a leap and a bound in keeping with its elastic qualities, natural rubber output has jumped ahead of its normal uses. By last July the production of the world's most versatile vegetable was 35,000 tons greater than its consumption.

Tropical America's natural rubber yield is still only a drop in the world's latex bucket. But Brazil—the land where rubber originated—appears now to be holding its own after a two-year slump during which it had to import the product it originally gave the world.

Migrated from Amazon to Asia—Compared to the slow travels of other vegetable products, natural rubber has bounced around the world and back in less than a century. Its trail of wealth leads from Amazon jungles to England's Royal Botanical Gardens at Kew. Seedlings from Kew started rubber plantations in Ceylon and Singapore and all across Malaya. The close-ranked trees of the islands of the young Republic of Indonesia—Java, Borneo, and Sumatra—were descended from the Kew seedlings.

As late as 1900, nearly 99 per cent of the world's rubber came from Brazil. But jungle workers tapping one or two wild trees per acre could not keep pace with skyrocketing demands of the automobile age. By 1934, the Far East's plantation system accounted for 99 per cent of the world's rubber production.

Although South American Para or Hevea rubber made Far East plantations possible, it could not be domesticated in its native western hemisphere. As fast as trees were planted in close formations, they fell victim to leaf blight, a disease that does not exist in the Orient.

Disease Blights Trees and Industry—The leaf blight disease, which all but ruined Brazil's rubber industry, has thwarted major United States rubber companies attempting to establish plantations in the American Tropics. The Brazilian government has bought up holdings of an American company and as a result of an intensive study of the blight, is now on the point of making the plantations pay for themselves.

Aided by experts from the United States Department of Agriculture, Brazilian scientists have been developing a tree which will resist the leaf blight and at the same time produce a high yield of latex.

Rubber trees sometimes have been rebuilt from the ground up—roots from one Hevea strain, trunk from another, foliage from still another—joined by grafting. High-yielding strains from Sumatra, nursed in the Philippines, were brought to Costa Rica. Disease-resistant varieties were hunted down in the jungles of the Amazon.

The success of the plant-disease fighters in growings strains that resist leaf blight now offers hope that rubber can again become a major crop in countries from southern Mexico to Brazil.

Today there are three United States rubber research stations in the Tropics—at Turrialba, Costa Rica; Marfranc, Haiti; and Cuyotenango, Guatemala. Experimental plantings have been made successfully in at

the Stars and Stripes. Norwegian and British whalers now lead the field. Japan ranked high until World War II.

This season 223 ships of various nations will hunt Antarctic waters in hope of catching the legal maximum of some 20,000 whales. By international agreement the hunt season is limited to a few months beginning after Christmas, hence the dog-tagging work before that date.

Whale products today are used mainly in making soaps, facial creams, and ointments; in the processing of leather; as a precision lubricant, and in the manufacture of glycerine for munitions. Whale meat has long been eaten in Norway and Japan. It was on the menu in several European countries during the meat-scarce period after World War II. Whale meal also is good in feed for chickens and cattle. Ambergris, rarest and most valuable whale product, goes into the costliest perfumes.

In the boom years of the early nineteenth century, whales were hunted chiefly for their oil, which kept the lamps of the world lighted. Discovery of petroleum marked the beginning of the end for that market and whaling began to decline after the Civil War.

Yankee Whalers Famed—Yankee whalemen in their strong wooden sailing ships rank among the great practical geographers of all times. They charted more than 400 islands of the South Seas and discovered that the long-sought Northwest Passage actually existed. A large measure of polar discovery stands to their credit.

Russian explorers pressing into "unknown" Antarctic waters in 1821 were amazed to find the sloop *Hero*, of Stonington, Connecticut, already on the scene calmly sealing and whaling. The first chart of the Gulf Stream was made the previous century by Captain Timothy Folger, of Nantucket, acting at the request of his relative, Benjamin Franklin.

Practical men concerned only with making their living, the blubber hunters often did not bother to announce important discoveries. Years later, historians searching matter-of-fact logbooks brought them to light.

Once Land Dwellers—The whale is not a fish. It is a mammal like man, has warm blood, and breathes air. Fish are cold-blooded and get their oxygen supply from water through their gills. Submerged, the whale keeps nostrils tightly shut. The air in its lungs becomes heated and water vapor forms. When it surfaces to exhale, this vapor causes the distinguishing "spout" which led to the whalers' cry: "Thar she blows."

Scientific evidence exists that millions of years ago whales lived on land and walked on four legs. Small bones that are vestiges of bygone hind legs can be found in a whale's body.

Whales are the biggest creatures known to have existed in the world. One sulphur-bottom blue whale taken in the Antarctic area was 111 feet long and weighed 90 tons. The largest weird creatures of the dinosaur era measured up to 90 feet and tipped the scales at a mere 40 tons.

Because of the heavy slaughter of whales over several centuries, there is fear that some species may be exterminated unless protected. Mr. and Mrs. Whale have a baby only about once every two years, whereas other animals raise big families in that time.

References—For further information, see "American Pathfinders in the Pacific," in *The National Geographic Magazine* for May, 1946; "Discovering Alaska's Oldest Arctic Town," September, 1942; and "Whales, Giants of the Sea," January, 1940.

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INTERNATIONAL PRESS PHOTO SERVICE

Like Beached Ships, Grounded Whales Draw Marveling Crowds—These two sperm whales were driven ashore in the southern Netherlands and brought to Rotterdam. In whaling's boom days, this species was the most widely hunted because it yielded an oil excellent for clear-burning candles and ointments. Most colorful and pugnacious of whales, harpooned sperms frequently smashed pursuing boats.

Bulletin No. 5, November 30, 1953

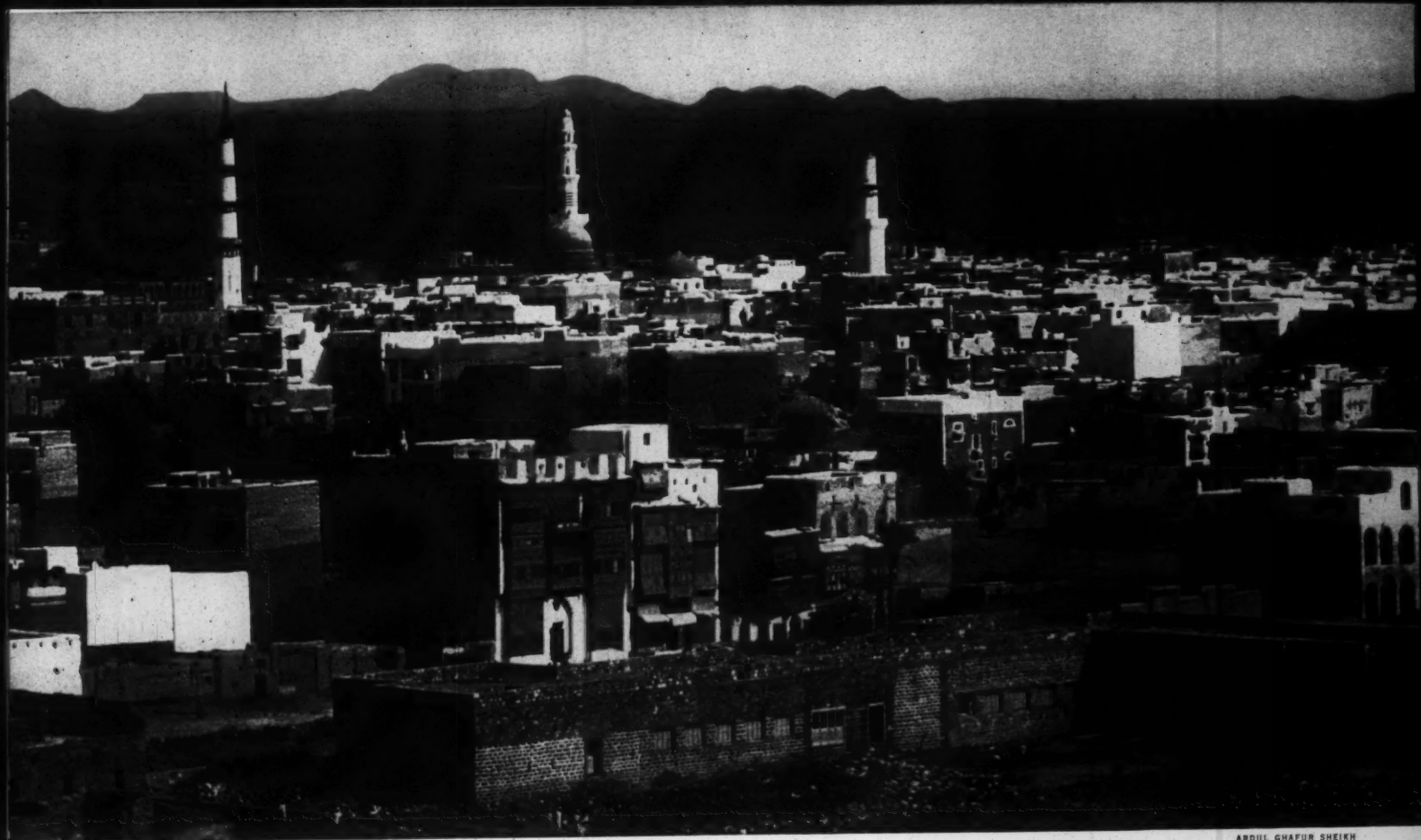
Antarctic Whales Due for Fancy Dog Tags

A supply of dog tags is on its way for the big whales who make Antarctica's frigid waters their home. Unlike the type so familiar to GI's, these identification markers go in the flanks of the sea mammoths and have four long nylon streamers of gaudy red and yellow.

Scientists will use shotguns to fire the steel-tube markers into the blubbery sides of their targets. When the whales are caught later by commercial fishermen, the markers are expected to yield valuable information on the life span and habits of these unusual mammals, just as leg-banding supplies bird lore. A clue to the serious reduction in the number of whales may be revealed.

Cast in Many Roles—Ever since the biblical story of Jonah and the whale, members of the Cetacean family have figured in the chronicles of humanity. Because of them, geography advanced and history was influenced. They inspired rousing fiction, notably Herman Melville's *Moby Dick*.

The United States was once the leading whaling nation in the world. In 1847 it had a fleet of 594 whalers at work on all oceans, as compared with 230 ships for all other nations. Today not a single whaler is under



(SEE BULLETIN NO. 3)

ABDUL GHAFUR SHEIKH

At Medina, Islam's Second-Holiest City, Mohammed Died and Is Buried. Many Aged Moslems Come Here to Await Judgment Day